

## ABSTRACT

A multicarrier communication apparatus capable of reducing an amount of information required for feedback, making a range of transmission power fluctuation small, and achieving rapid convergence on a target transmission power is disclosed. With this apparatus, subcarrier pair determination section (1142) puts a plurality of subcarriers contained in a multicarrier signal into pairs, notifies combining section (106) of information pertaining to the pairs of subcarriers, combines received power of each pair of subcarriers, and outputs combined received power obtained in this manner to command producing section (1146). Target power storage section (1144) stores target power for received power in such a manner that SIR at the subject apparatus becomes a desired SIR. Command producing section (1146) compares combined received power for the pairs of subcarriers and target received power, produces a command indicating a difference in power between these two received powers, and generates a control signal containing the produced command.

2F04150-PCT

FIG.1A, FIG.5A .

POWER

FREQUENCY

5 FIG.1B, FIG.5B

TRANSMISSION POWER

FREQUENCY

FIG.2

10 WIRELESS RECEIVING SECTION 100

GI REMOVING SECTION 102

FFT SECTION 104

COMBINING SECTION 106

DEMODULATION SECTION 108

15 DECODING SECTION 110

DECODED DATA

WIRELESS TRANSMITTING SECTION 116

CONTROL SIGNAL GENERATING SECTION 114

RECEIVED POWER MEASURING SECTION 112

20

FIG. 3

TO WIRELESS TRANSMITTING SECTION 116

COMMAND PRODUCING SECTION 1146

SUBCARRIER PAIR DETERMINATION SECTION 1142

25 TARGET POWER STORAGE SECTION 1144

FROM RECEIVED POWER MEASURING SECTION 112

TO COMBINING SECTION 106

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FIG. 4

TRANSMISSION DATA

ENCODING SECTION 200

5 REPETITION SECTION 202

MODULATION SECTION 204

MULTIPLEXER 206

S/P CONVERTER 208

IFFT SECTION 210

10 TRANSMISSION POWER CONTROL SECTION 212

GI INSERTION SECTION 214

WIRELESS TRANSMITTING SECTION 216

WIRELESS RECEIVING SECTION 218

CONTROL SIGNAL DECODING SECTION 220

15 PILOT DATA

FIG. 6

(FIG. 4+)

MODULATION DIVERSITY SECTION 300

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FIG. 7

FROM MODULATION SECTION 204

ROTATING SECTION 3001

IQ SEPARATION SECTION 3002

25 BUFFER 3003

BUFFER 3004

INTERLEAVER 3005

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COMBINING SECTION 3006

TO MULTIPLEXER 206